UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS, TX 75202-2733

MEMORANDUM

SUBJECT: Incident Specific Action Plan for the Castex Systems, Inc., Site, Jefferson Davis Parish, Louisiana
Federal Project Number 08-6-144

FROM: Robert M. Ryan, P.E., Senior On-Scene Coordinator
Response and Prevention Branch (6SF-R1) James R. Mullen

TO: Myron O. Knudson, P.E.
Director, Superfund Division (6SF)

THRU: Charles A. Gazda
Chief, Response and Prevention Branch (6SF-R)

I. PURPOSE

This memorandum requests approval for an Incident Specific Action Plan and removal action pursuant to the Clean Water Act (CWA), 33 U.S.C. 1321 et seq., as amended by the Oil Pollution Act of 1990 (OPA), at the Castex Systems, Inc. Site located approximately three miles southeast of Jennings, Jefferson Davis Parish, Louisiana. The proposed action involves the removal and disposal of nonhazardous oil field waste (NOW) from the production of crude oil, naturally occurring radioactive material (NORM) waste from the production of crude oil, and oil-contaminated soil, water and debris.

II. SITE CONDITIONS AND BACKGROUND

Federal Project Number: 08-6-144
Category of Removal: Time Critical
Incident Specific Site Project Number: Z6063

A. Site Description

1. Removal Site Evaluation

The Castex Systems, Inc. Site is a nonhazardous oil field waste (NOW) disposal facility that was abandoned in 1989 shortly after a fire and catastrophic failure of the produced water storage tank battery. It was brought to the attention of the Environmental Protection Agency (EPA) Response and Prevention Branch by the Louisiana Department of Natural Resources (LDNR). The LDNR had utilized some closure funds to investigate the site, but did not have sufficient funds remaining to properly close the entire site.

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2. Physical Location

The site is located in Section 17, Township 10 South, Range 2 West of the Jefferson Davis Parish in southwestern Louisiana. Regionally, the facility is located approximately 3 miles east of Jennings, Louisiana, just south of U.S. Highway 90 and east of State Highway 1126. The surrounding topography is generally flat and the land is used primarily for agricultural production. Surface drainage across the region is easterly toward the Mermantau River which is located approximately ½ to 1 mile east of the facility.

3. Site Characteristics

Approximately 9,750 barrels (bbls) of NOW fluids are contained in 19 above-ground storage tanks (ASTs), varying in condition from fair to poor. The four failed ASTs contained NORM sediments which spilled into the containment basin and mixed with oily sludge. The berm surrounding this containment has failed on the south side discharging oil, water and NORM sediments into the surrounding drainage pathway and marsh. The drainage pathway and marsh flow to the Mermantau River which flows through Grand Lake to the Gulf of Mexico.

The facility also contains 11 waste management units (WMUs) where NOW solids are stored. The WMUs contain approximately 20,400 bbls of oil-based drilling mud and solids, 96,319 bbls of saltwater-based drilling mud and solids, and 17,100 bbls of contaminated rainwater.

The surrounding topography is generally flat and the land is used primarily for agricultural production. Surface drainage across the region is easterly toward the Mermantau River which is located approximately ½ to 1 mile east of the facility. Any releases of oil from the site are expected to directly enter navigable waters of the United States. Based on current conditions, the threat of oil release is judged to be great.

4. Discharges or Substantial Threat of Discharge of Oil into the Environment

An estimated 9,750 bbls of liquid waste remain in the on-site storage tanks. This waste varies from oily liquids in the closed-top tanks to oil-contaminated rainwater/produced-water mixture in the open-top tanks and oil/water separator.

The NOW soils from the waste management units total approximately 11,000 bbls of oil-base waste and 65,000 bbls of

salt-base waste. The oil-base waste is concentrated in the oil-base mud pits. The salt-base waste is located in three primary areas, and the majority is staged in unlined pits and storage piles. It is estimated that an additional 1,400 bbls of oil-base waste and 8,000 bbls of salt-base waste may be found due to subsurface contaminant migration. Approximately 16,000 bbls of salt-base waste have been tested and found to meet LDNR reuse criteria for on-site backfill.

There are approximately 5,700 bbls of oil-base liquids, 24,000 bbls of salt-base liquids and 17,000 bbls of contaminated rainwater in the waste management units.

The NORM wastes are primarily located in two specific areas. It is estimated that approximately 3,000 bbls of NORM sludge and contaminated soil exist in the berm around the failed storage tanks and in the runoff area from the breach in the containment berm.

There is visible evidence of past discharges from the berm surrounding the tanks, and although there were no visible discharges active when the site was demobilized, the substantial threat of discharge of oil into navigable waters is clear and present due to the deteriorating conditions of the site.

5. Maps, Pictures and Other Graphic Representations

Attachment 1 Enforcement Addendum
Attachment 2 Site location map
Attachment 3 Site sketch
Attachment 4 Site photos

B. Other Actions to Date

1. Previous Actions

The LDNR permitted the facility to begin disposal of NOW material in September, 1982. The facility accepted both oil- and water-based drilling muds, drill cuttings, produced saltwater, and oily water. The LDNR ordered the facility closed in August 1989 based on violations of LDNR Statewide Order No. 29-B, by Administrative Order No. UIC 89-2. The LDNR requested EPA assistance in May 1996.

EPA initiated a removal action in August 1996, under FPN 08-6-144. A quality assurance and sampling plan (QASP) was implemented to determine waste characteristics and disposal requirements. The on-site injection well (SN 034959) was tested

for potential saltwater disposal, and approved by LDNR. Non-metallic debris was disposed of at an approved landfill. Approximately 300 bbls of saltwater were injected via the disposal well before the exterior casing failed. EPA sampled the NOW material for LDNR Order 29-B compliance and reuse criteria.

Due to notification from the U.S.C.G. Maintenance and Logistics Command, Atlantic (MLC-LANT) Contracting Officer rescinding authorization of the use of Oil Spill Liability Trust Fund (OSLTF) funds for further removal action, the EPA OSC ceased operations on September 26, 1996.

2. Current Actions

There are no actions currently taking place at the Castex Systems, Inc., Site.

C. State and Local Authorties' Roles

1. State and Local Actions to Date

The Louisiana Department of Natural Resources ordered the facility be closed for violations of Statewide Order 29-B. The LDNR issued a Request for Proposal to several contractors for a closure plan for Castex Systems, Inc., in 1991. The LDNR requested EPA assistance in closure in 1996.

2. Potential for Continued State/Local Response

The LDNR has indicated in its letter to the EPA referring the site that site closure is beyond its capabilities and more appropriate for EPA action.

III. THREATS TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES

A. Threats to Public Health or Welfare

1. Exposure to Human Populations, Animals or the Food Chain

There is potential for exposure of human populations and animals to the NOW and NORM wastes in the containment areas and waste management units. There are visible signs of past discharges and the potential for future discharges is great. Routes of exposure exist from direct contact with the skin, eyes and mucous membranes, inhalation of contaminated soil, and exposure to ionizing radiation.

The effects of exposure to the NOW materials and NORM wastes include dizziness, damage to the liver, kidneys and nervous

system, radiation poisoning, and death. The constituents of the NORM wastes are also considered carcinogens, mutagen, and teratogen.

2. Contamination of Drinking Water Supplies or Sensitive Ecosystems

There is potential for exposure to the surface waters of both the surrounding wetlands and the Mermantau River due to uncontrolled runoff from the site.

B. Threats to the Environment

This portion of southwestern Louisiana is subject to a wide range of adverse weather conditions which would cause the discharge of additional oily wastes to the environment. These adverse weather conditions include violent thunderstorms which have the potential for several inches of rainfall in a short period of time. Additionally, this portion of Louisiana is subject to hurricane effects, including flooding.

IV. ENDANGERMENT DETERMINATION

Actual discharges or substantial threat of discharge of oil, NOW, and NORM wastes from the Castex Systems, Inc. Site, if not addressed by implementing the response action selected in this Incident Specific Action Plan, may present an imminent and substantial threat to the public health, welfare or the environment.

V. PROPOSED ACTIONS AND ESTIMATED COSTS

A. Proposed Actions

1. Proposed Action Description

The closure plan selected is a combination of removal and offsite disposal of NORM and certain NOW materials and on-site treatment, reuse and disposal of the remaining NOW materials. The critical decisions entail the depth of contaminated material to be removed from the WMU areas, cost effectiveness of rework and use of the on-site salt water disposal well, reuse of treated soils and degree of on-site treatment of waters.

a. On-Site Equipment

Before excavation of the NOW and NORM wastes may be effected, the on-site equipment must be cleaned, decontaminated

and removed. This will entail removal and disposal of the tank liquids and sludge, decontamination of the tanks followed by physical removal of the tanks. Following closure the on-site disposal well will be plugged and abandoned.

b. Fate and Disposition of NOW Liquids

The NOW liquids will be treated in a variety of methods, dependent on the cost effectiveness of a particular waste and method. The selected disposal option is a combination of off-site disposal, on-site injection, and on-site filtration and treatment.

The casing packing on the on-site saltwater disposal well failed in September, 1996, after passing a pressure test. If it is cost-effective to rework the well to return it to operation, then a portion of the waste will be injected on-site. This option is also dependent on the chloride content of the waste, filtering the material to less than 5 micrometer mean particle diameter, and pump requirements to greater than 500 psig.

Filtration followed by carbon bed adsorption and on-site discharge is a viable option dependent on chloride content of the waters. Filtration will be by a sand filter for gross particulate, followed by a bag filter to filter particles to less than 5 micrometers, then two-stage carbon bed adsorption to remove organic contaminants. This option is dependent on discharge limits from the Louisiana Department of Environmental Quality.

Total removal and transport to a permitted disposal facility is considered the most expensive option. If necessary, the waters will be removed by vacuum truck and transported to a permitted facility for either deepwell injection or other treatment.

c. Fate and Disposition of NOW Solids

The NOW solids will be disposed of in accordance with LDNR Statewide Regulation 29-B. This will include closure of the on-site pits.

Those solids which do not meet LDNR criteria for either reuse or disposal-in-place will be excavated and transported to a State-approved NOW disposal facility.

Those materials which meet LDNR criteria for disposal-in-place will be left in place and capped. The cap will be a minimum of six inches of compacted clay and six inches of clean

cover material, then seeded to retard erosion.

Those NOW solids which meet LDNR criteria for on-site reuse will be excavated and used as fill material in the excavated pits to bring the pits to grade.

d. Fate and Disposition of NORM Waste

The NORM waste will be excavated, solidified (as necessary) and transported to a State regulated and approved NORM disposal facility. This is the only option available for the NORM waste.

e. Groundwater Contamination

Mitigation of groundwater contamination is beyond the scope of this action. However, according to historical information and recent site investigations, the degree of groundwater contamination of the two upper saturated zones is minimal due to a clay layer underlying a majority of the site. Additionally, the two upper saturated zones are not used for either local residential or agricultural purposes.

2. Compliance With Applicable Requirements and the NCP

This removal action will be conducted to eliminate the actual or threatened discharges of oily wastes to the environment, pursuant to the CWA, 33 U.S.C. 1321, et seq. and, to the greatest extent possible, in accordance with the National Contingency Plan, 40 CFR Part 300, Subpart D. This action also will be performed in accordance with applicable laws and regulations pursuant to NCP requirements. State regulations that specifically govern handling and disposal of the oily wastes found on site are applicable.

3. Project Schedule

Initial mobilization will be for additional sampling and disposal profiling of NOW liquids in the tanks. If cost effective, the on-site saltwater disposal well will be reworked and returned to service. After the disposal companies grant approval for disposal, the NOW solids which do not meet LDNR reuse or disposal-in-place and the NORM solids will be transported to the disposal facilities. Those NOW solids which meet LDNR reuse or disposal-in-place criteria will be segregated, placed in pits and capped. The site will be graded to promote drainage and retard erosion. The entire duration of the project is expected to be approximately nine months from initial mobilization.

B. Estimated Costs

Extramural Costs

ERRS	$ 1,150,000
START	$ 100,000
Subtotal, Extramural Costs	$ 1,250,000
~~Extramural Costs Contingency (20%)~~	~~$ 250,000~~
TOTAL, EXTRAMURAL COSTS	$ ~~1,500,000~~ 1,250,000

Intramural Costs

EPA Direct Costs	$ 60,000
USCG Strike Team Costs	$ 90,000
TOTAL, INTRAMURAL COSTS	$ 150,000
TOTAL, FPN OBLIGATIONS SPENT FY 1996	$ 134,000
TOTAL, REMOVAL PROJECT CEILING	$ ~~1,784,000~~ 1,534,000

VI. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

If action is not taken at the Castex Systems, Inc. Site, the tanks will continue to deteriorate and release oily wastes into navigable waters. The overflow of accumulated oil-contaminated rainwater will continue to spread the contamination over a larger area.

VII. OUTSTANDING POLICY ISSUES

There are no outstanding policy issues associated with this site.

VIII. ENFORCEMENT

See Attachment 1.

IX. RECOMMENDATION

This decision document represents the selected incident specific action plan and removal action for the Castex Systems, Inc. Site in Jefferson Davis Parish, Louisiana, developed in accordance with the CWA, as amended, and the NCP.

Conditions at the site demonstrate the existence of a discharge or an imminent and substantial threat of discharge of oil. The total project ceiling will be $ ~~1,784,000~~. It is 1,534,000 recommended that this document serve as the basis for a Site Specific Interagency Agreement and that it be promptly implemented.

RECOMMENDED Myron O Knudson DATE 10/20/97

Myron O. Knudson, P.E.
Director, Superfund Division